

Application No. 09/883,705
Amdt. dated July 11, 2003
Reply to Office action of March 13, 2003

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

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Claim 1 (Currently amended): A fire fighting foam concentrate comprising:
foamable fire fighting agent;
water-soluble dye; and
glycol ether ,
a spectral property of a fire fighting foam mixture comprising the fire fighting foam concentrate and a diluent being substantially proportional to the concentration of fire fighting agent in the fire fighting foam mixture.

Claim 2 (Original): The fire fighting foam concentrate of claim 1 where the foamable fire fighting agent comprises fluorosurfactant-based foamable fire fighting agent.

Claim 3 (Original): The fire fighting foam concentrate of claim 2 wherein the foamable fire fighting agent is alcohol resistant.

Claim 4 (Original): The fire fighting foam concentrate of claim 2 where the foamable fire fighting agent is non-alcohol resistant fluorosurfactant-based foamable fire fighting agent.

Claim 5 (Currently amended): The fire fighting foam concentrate of claim 2 further comprising hydrocarbon surfactant-based foamable fire fighting agent.

Claim 6 (Original): The fire fighting foam concentrate of claim 1, comprising:

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not more than 40% by weight of the foamable fire fighting agent, based on the weight of the fire fighting foam concentrate;

not more than 2% by weight of the water-soluble dye, based on the weight of the fire fighting foam concentrate; and

not more than 20% by weight of the glycol ether, based on the weight of the fire fighting foam concentrate.

Claim 7 (Original): The fire fighting foam concentrate of claim 1, comprising:

not less than 1% by weight of the foamable fire fighting agent, based on the weight of the fire fighting foam concentrate;

not less than 0.0001% by weight of the water-soluble dye, based on the weight of the fire fighting foam concentrate; and

not less than 5% by weight of the glycol ether, based on the weight of the fire fighting foam concentrate.

Claim 8 (Currently amended): A fire fighting foam concentrate comprising:

fluorosurfactant-based foamable fire fighting agent; and

water-soluble dye,

a spectral property of a fire fighting foam mixture comprising the fire fighting foam concentrate and a diluent being substantially proportional to the concentration of the fire fighting agent in the fire fighting foam mixture.

Claim 9 (Currently amended): The fire fighting foam concentrate of claim 8, further comprising:

hydrocarbon surfactant-based foamable fire fighting agent.

Claim 10 (Original): The fire fighting foam concentrate of claim 8 wherein the fluorosurfactant-based foamable fire fighting agent is alcohol resistant.

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Claim 11 (Currently amended): A fire fighting composition comprising:

foamable fire fighting agent;

water soluble dye;

glycol ether; and

diluent,

a spectral property of the fire fighting composition being substantially proportional to the concentration of fire fighting agent.

Claim 12 (Currently amended): A method of fighting a fire comprising applying a fire fighting composition comprising:

foamable fire fighting agent;

water soluble dye;

glycol ether; and

diluent,

a spectral property of the fire fighting composition being substantially proportional to the concentration of fire fighting agent.

Claim 13 (Currently amended): A method of evaluating fire fighting foam, said method comprising:

- a) introducing into an aqueous liquid a fire fighting foam concentrate comprising:
foamable fire fighting agent; glycol ether; and water soluble dye, to obtain a resultant mixture, a spectral property of the resultant mixture being substantially proportional to the concentration of fighting agent in the resultant mixture;
- b) obtaining a sample of the resultant mixture; and
- c) comparing the spectral property of the sample to a ~~preestablished~~ pre-established standard.

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Claim 14 (Original): The method of claim 13, further comprising determining the concentration of fire fighting foam concentrate in the resultant mixture.

Claim 15 (Original): The method of claim 13, wherein the spectral property comprises color intensity.

Claim 16 (Currently amended): A method of evaluating a fire fighting composition, said method comprising:

- a. introducing into an aqueous liquid a fire fighting foam concentrate comprising:
foamable fire fighting agent; and
water-soluble dye,
to obtain a fire fighting composition;
- b) obtaining a sample of the fire fighting composition; and
- c) comparing, at a particular wavelength, the absorption of light of by the sample at a particular wavelength to the absorption of light by a preestablished pre-established standard.

Claim 17 (Previously presented): The method of claim 16, further comprising:

- d) between steps a and b, foaming the fire fighting composition and permitting the foamed fire fighting composition to relax back into liquid form.

Claim 18 (Previously presented): The fire fighting foam concentrate of claim 1, comprising:

1% - 40% by weight of the foamable fire fighting agent, based on the weight of the fire fighting foam concentrate;

0.0001% - 2% by weight of the water-soluble dye, based on the weight of the fire fighting foam concentrate; and

5% - 20% by weight of the glycol ether, based on the weight of the fire fighting foam concentrate.

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Claim 19 (Previously presented): The fire fighting foam concentrate of claim 1 wherein the glycol ether comprises diethylene glycol butyl ether.

Claim 20 (Currently amended): A method of evaluating a fire fighting composition, said method comprising:

- a) introducing into an aqueous liquid a fire fighting foam concentrate comprising:
foamable fire fighting agent;
glycol ether; and
water-soluble dye,
to obtain a fire fighting composition;
- b) obtaining a sample of the fire fighting composition; and
- c) comparing the spectral property of the sample to a ~~preestablished~~ pre-established standard.

Claim 21 (Currently amended): A method of evaluating a fire fighting composition, said method comprising:

- a) introducing into an aqueous liquid a fire fighting foam concentrate comprising:
fluorosurfactant-based foamable fire fighting agent; and
water-soluble dye,
to obtain a fire fighting composition, a spectral property of the fire fighting composition being substantially proportional to the concentration of the fire fighting foam concentrate in the fire fighting composition;
- b) obtaining a sample of the fire fighting composition; and
- c) comparing the spectral property of the sample to a ~~preestablished~~ pre-established standard.

Claim 22 (Currently amended): A method of evaluating a fire fighting composition, said method comprising:

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- a) introducing into an aqueous liquid a fire fighting foam concentrate comprising:
foamable fire fighting agent;
glycol ether; and
water-soluble dye,

to obtain a fire fighting composition, a spectral property of the fire fighting composition being substantially proportional to the concentration of fire fighting foam concentrate in the fire fighting composition;

- b) obtaining a sample of the fire fighting composition; and
c) comparing the spectral property of the sample to a ~~preestablished~~ pre-established standard.

Claim 23 (Previously presented): The method of claim 22, further comprising determining the concentration of fire fighting foam concentrate in the fire fighting composition.

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Claim 24 (New): A fire fighting system, comprising:

- a foam concentrate comprising:
foamable fire fighting agent,
water-soluble dye, and
glycol ether,
a spectral property of a fire fighting foam mixture comprising the fire fighting foam concentrate and a diluent being substantially proportional to the concentration of fire fighting agent in the diluted fire fighting foam mixture; and
means for determining the concentration of fire fighting agent in a sample of fire fighting foam mixture by analyzing the spectral property of the sample.

Claim 25 (New): A system for evaluating fire fighting foam, said system comprising:

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- a) means for introducing into an aqueous liquid a fire fighting foam concentrate comprising: foamable fire fighting agent; glycol ether; and water soluble dye, to obtain a resultant mixture, a spectral property of the resultant mixture being substantially proportional to the concentration of fighting agent in the resultant mixture;
 - b) means for obtaining a sample of the resultant mixture; and
 - c) means for determining the concentration of fighting agent in the sample by comparing the spectral property of the sample to a pre-established standard.

Claim 26 (New): A system for evaluating a fire fighting composition, said system comprising:

- a) means for introducing into an aqueous liquid a fire fighting foam concentrate, said concentrate comprising:
 - foamable fire fighting agent; and
 - water-soluble dye,to obtain a fire fighting composition;
- b) means for obtaining a sample of the fire fighting composition; and
- c) means for determining the concentration of the agent in the sample by comparing, at a particular wavelength, absorption of light by the sample to absorption of light by a pre-established standard.

27. (New): The fire fighting foam concentrate of claim 1, the diluent comprising sea water.

28. (New): The fire fighting foam concentrate of claim 1, the diluent having at least one of:

- a high level of electrolyte relative to pure water; and
- a high level of dissolved solid content relative to pure water.